

METHOD FOR PRODUCING SEMI-INSULATING RESISTIVITY IN HIGH PURITY SILICON CARBIDE CRYSTALS

Abstract of Disclosure

A method is disclosed for producing high quality semi-insulating silicon carbide crystals in the absence of relevant amounts of deep level trapping elements. The invention includes the steps of heating a silicon carbide crystal having a first concentration of point defect related deep level states to a temperature above the temperatures required for CVD growth of silicon carbide from source gases, but less than the sublimation temperature of silicon carbide under the ambient conditions to thereby thermodynamically increase the number of point defects and resulting states in the crystal, and then cooling the heated crystal to approach room temperature at a sufficiently rapid rate to maintain a concentration of point defects in the cooled crystal that remains greater than the first concentration.

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Figures

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